

#156

IMP D + E

HOURLY AVRG B FIELD VECTORS

66-058A-03B

67-070A-03B

IMP-D & E

HOUR AVG B FIELD VECTORS ON TAPE

66-058A-03B

67-070A-03B

These data sets have been restored. There was originally one 7-track, 800 BPI tape written in Binary. There is one restored tape. The DR tape is a 3480 cartridge and the DS tape is 9-track, 6250 BPI. The original tape was created on a 6600 computer and the restored tape was created on an IBM 9021 computer. The DR and DS numbers along with the corresponding D number are as follows:

DR#	DS#	D#	FILES	TIME SPAN
-----	-----	-----	-----	-----
DR005413	DS005413	D007065	1	07/23/67 - 12/15/68

REQ. AGENT  
VJP

RAND NO.  
RC2561

ACQ. AGENT  
JHK

IMP D + E

HOURLY AVRG B FIELD VECTORS

66-058A-03B

67-070A-03B

This data set catalog consists of 1 Explorer 33 and 35 Hourly Averaged B Field Vectors data tape. The tape is 800 BPI, EBCDIC, 7 track, 1 File and was made on the IBM 360/75.

The time spans are as follow:

D-07065

C-05587

IMP-D                            1/01/67 - 12/31/69

IMP-E                            7/23/67 - 12/31/69

## Explorer 33 and 35 Ames Magnetometer Data Description

Hourly averaged interplanetary magnetic field data from the Ames magnetometers on Explorer 33 (Data Set D) and Explorer 35 (Data Set E) for the years 1967, 1968, and 1969 have been placed on magnetic tape in chronological order as EBCDIC card images. The tapes are binary, 7-track, EBCDIC, RECFM=FB, LRECL=80, BLKSIZE=10240 (must use TRTCH=C).

The identification of the contents of each field is as follows:

WORD	FORMAT	IDENTIFICATION
1	I3	Day number of year (January 1 is day 0).
2	I6	The Universal Time hour, minute and second when last telemetry sequence in that hourly average begins (2 characters each).
3	F5.1	Hourly average magnetic field in gammas.
4	F6.1	Hourly average field latitude in degrees (S.E.*).
5	F6.1	Hourly average field longitude in degrees (S.E.).
6	F6.1	Hourly average field Y component in gammas (S.E.).
7	F6.1	Hourly average field Z component in gammas (S.E.).
8	F6.1	Hourly average field latitude in degrees (S.M.*).
9	F6.1	Hourly average field longitude in degrees (S.M.).
10	F6.1	Hourly average field X component in gammas (S.M.).
11	F6.1	Hourly average field Y component in gammas (S.M.).
12	F6.1	Hourly average field Z component in gammas (S.M.).
13	I4	Number of individual vector sample available during hour.
14	F5.1	a) Hourly average magnetic field normal to the earth-sun line in gammas (for data prior to 1969). b) The year (1969 = 69.0) for data after 1968.
15	A3	a) Data group number ID-44D for Explorer 33, IE-22E for Explorer 35 (for data prior to 1969). b) OD for Explorer 33, OE for Explorer 35 (for data after 1968).

\* S.E. is for solar equatorial coordinate system.

\*\* S.M. is for solar magnetospheric coordinate system.

The solar equatorial coordinate system has the positive X direction towards the sun along the Earth-sun line. The positive Z direction has a northward sense and is in the plane of both the X axis and the sun's spin axis. The Y axis completes a right-handed, orthogonal coordinate system, X Y Z.

The definition of the solar magnetospheric coordinate system is the same as that of the solar equatorial system except that the positive Z direction is northward, parallel to the plane of the X axis and Earth's magnetic dipole, and normal to the X axis.

A description common to the Explorer 33 and Explorer 35 magnetometers is found in the article by Sonett et al. (pp. 461-484) in "Physics of the Magnetosphere", edited by R. L. Carovillano et al., D. Reidel Publishing Co., Dordrecht-Holland, 1968, and also in J. Geophys. Res. 73, 943-959, 1968. The above reference also describe the Explorer 33 orbit. The Explorer 35 orbit is described in Science 158, 1040-1042, 1967.

4  
B11372-000A  
500015

67-0704-03B

Explorers 33 and 35 Amer Magnetometer Data Description

by Dr. P. J. Fougere

Hourly average interplanetary magnetic field data from the magnetometers on Explorer 33 and Explorer 35 for the years 1967-1968 have been placed on magnetic tape as ECD card files. The fields are I3, I6, F5.1, 0F6.1, I4, 0I4, A3. The identification of the contents of each field or ECD card is as follows:

Field	Format	Description
I3	I3	Day number of year (January 1 is 001).
I6	I6	The Universal Time hour, minute and second of the last telemetry sequence in that hourly average begins (2 col each).
F5.1	F5.1	Hourly average magnetic field magnitude in gamma.
F6.1	F6.1	Hourly average field latitude in degrees.
F6.1	F6.1	Hourly average field longitude in degrees.
F6.1	F6.1	Hourly average field Y component in gamma.
F6.1	F6.1	Hourly average field Z component in gamma.
F6.1	F6.1	Hourly average field latitude in degrees.
F6.1	F6.1	Hourly average field longitude in degrees.
F6.1	F6.1	Hourly average field X component in gamma.
F6.1	F6.1	Hourly average field Y component in gamma.
F6.1	F6.1	Hourly average field Z component in gamma.
I4	I4	Number of individual vector samples made during hour.
F5.1	F5.1	Hourly average magnetic field normal to the sun line in gamma.
A3	A3	Data group number 1-D to 44-D for Explorer 33 or 1-E to 22-E for Explorer 35.

\*S = for solar equatorial coordinate system.

\*\*M = for solar magnetospheric coordinate system.

The solar equatorial coordinate system has the positive X axis along the sun along the earth-sun line. The positive Z direction is in the third sense and is in the plane of both the X axis and the Y axis. The Y axis completes a right-handed, orthogonal set X, Y, Z.

The orientation of the solar-magnetospheric coordinate system is the same as that of the vector equatorial system except that the positive  $\hat{z}$  direction is northward, parallel to the plane of the X axis and earth's magnetic dipole, and normal to the Z axis.

A description current to the Explorer 35 and Explorer 36 magnetometers is found in the article by Siscoe et al., "Configuration and Reconnection of the Geomagnetic Tail," Physics of the Magnetosphere, edited by R. L. Carovilli, et al., D. Reidel Publishing Co., Dordrecht-Holland, 461-484, 1968. The article is also in J. Geophys. Res., 73, 343-359, 1968. The above references also describe the Explorer 35 orbit. The Explorer 36 orbit is described in Science, 158, 1040-1042, 1967.

Hourly Average Interplanetary Magnetic Field Data: 1967-1971

by W. H. Baum

Hourly averages interplanetary magnetic field data were compiled from the Ames magnetometer aboard Explorer 33 and Explorer 35 spacecraft. Only interplanetary data appear; i.e., hourly averages do not include any data taken in the earth's magnetic tail or anywhere else behind the earth's bow shock and also do not include data taken in the diamagnetic solar wind cavity behind the moon. There are gaps in the data because of those conditions. Explorer 33 data were used where possible; for those time periods where Explorer 33 was behind the earth's bow shock an attempt was made to supplement the data with data from Explorer 35. The latter is characteristically "dotted" out approximately 2 hours out of every 11.5 because it passes through the diamagnetic cavity once each orbit.

The magnetic tape as produced by the CDC 6600 was blocked according to a format called (in CDC terminology) "STRIP standard." It may be necessary to recopy this tape on a CDC machine to produce a unblocked IBM tape generally compatible with any machine. The latter format is called "STRANGE" in CDC terminology.

When the number of individual vector samples is given as greater than 1000, the averages given are actually 1-hour averages for the preceding 3 days (rather than for the preceding 1 hour) from the time given. This occurred mainly for some of the records for days 82-83 and 82-83 of the year 1968.

Due to the method of editing used, in 19 cases 15 values (hourly averages for the same hour and the same spacecraft) are contained in the different data sets. In a similar number of cases there are Explorer 33 and Explorer 35 records covering the same day and hour. The Ames group appreciates the assistance of Ronald L. Rosemary of the University of California, Los Angeles, for calling these points to our attention.

The following tabulation indicates the times covered by each data set.

— 1 —

\*Year 1968

## 100% Labeled Isotopes - 100%

Sample No.	Label	Top	Bottom	Left	Right
Conc.	(M)	(M)	(M)	(M)	(M)
100-1	22-17	1	102-16	937-17	20-E
100-2	25-17	1	103-16	934-17	21-E
100-3	26-17	1	103-17	935-17	19-E
100-4	22-17	1	106-17	931-17	21-E
100-5	24-17	1	106-17	931-17	21-E
100-6	24-17	1	106-17	108-17	22-E
100-7	24-17	1	107-17	126-17	15-E
100-8	24-17	1	112-17	119-17	17-E
			115-17	172-17	15-E
			178-17	186-17	16-E
			196-17	216-17	17-E
			224-17	244-17	18-E
			244-17	267-17	19-E
			247-17	301-17	20-E
			321-17	326-17	21-E
			346-17	349-17	22-E

32 0325104  
S 90650-0

Exp 10/08/88 33435  
33 - 01/01/62 - 12/31/69  
35 - 07/23/62 - 12/31/69





RECORD LENGTH = 184 OF FILE BYTES

6

365

IEC2091	YZJRJJJ5	Y0907	CC1	TR=001	TW=000	FG=000	CL=000	N=000	SIO=001186
IEF1421	-STEP	WAS EXECUTED	-COND	CCE=0000					
IEF2451	SYS251E3	.T14C623-RV000-YZJRJJJ5-L00M0D					PASSED		
IEF2851	VOL SER NOS=K3SCR2								
IEF2851	SYS75153.T14C033-PV000	YZJRJJJ5-S0000913				SYSIN			
IEF2851	VOL SER NOS=K3SCR2	SYS75153.T14C033-RV000-YZJRJJJ5-S0000913				DELETED			
IEF2851	VOL SER NOS=K3SCR2	SYS75153.T14C033-SV000-YZJRJJJ5-P00000909				SYSOUT			
IEF2851	VOL SER NCS=K3SCR4	SYS75153.T14C033-SV000-YZJRJJJ5-P00000910				DELETED			
IEF2851	VOL SER NOS=K3SCR4	SYS75153.T14C033-SV000-YZJRJJJ5-P00000911				DELETED			
IEF2851	VOL SER NOS=K3SCR4	SYS75153.T14C033-RV000-YZJRJJJ5-P00000912				KEPT			
IEF2851	VOL SER NOS=K3SCR4	SYS75153.T14C033-SV000-YZJRJJJ5-P00000913				KEPT			
IEF2851	VOL SER NOS=K3SCR4	SYS75153.T14C033-SV000-YZJRJJJ5-P00000914				KEPT			
IEF2851	VOL SER NOS=K3SCR4	SYS75153.T14C033-SV000-YZJRJJJ5-P00000915				KEPT			
IEF2851	VOL SER NOS=K3SCR4	SYS75153.T14C033-SV000-YZJRJJJ5-P00000916				KEPT			
IEF2851	VOL SER NOS=K3SCR4	SYS75153.T14C033-SV000-YZJRJJJ5-P00000917				KEPT			
IEF2851	VOL SER NOS=K3SCR4	SYS75153.T14C033-SV000-YZJRJJJ5-P00000918				KEPT			
IEF2851	VOL SER NOS=K3SCR4	SYS75153.T14C033-SV000-YZJRJJJ5-P00000919				KEPT			
IEF2851	VOL SER NOS=K3SCR4	SYS75153.T14C033-SV000-YZJRJJJ5-P00000920				KEPT			
IEF3761	JOB /YZJRJJJ5/ START 75153.1952								
IEF3761	SYSTE=MVT-21 (11-21-73)	K3							
JOB .0388-									
IO IN SECs. DISK=12.07.DRUM=.92.TAPE=.32.MINS=CPU=.95,IO=.27,CELL=.00,OTHR=.31									
TIME=20.07.45.93 DATE=96-02-75									

THEF WERE 01 TAPES MOUNTED FOR THIS JOB. TAPE MOUNT CHARGE WAS 00.0 MINUTES.